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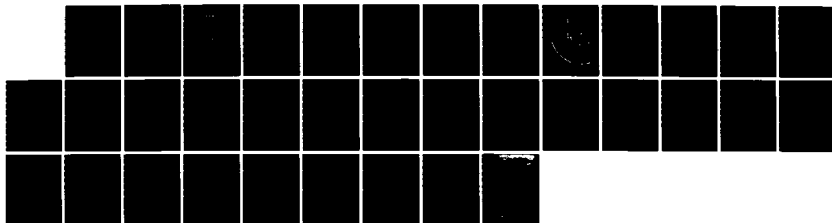
193208T MLRS MISSILE NUMBERS V6138 V6139 V6155 V6141
V6167 ROUND NUMBERS.. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER JUL 84
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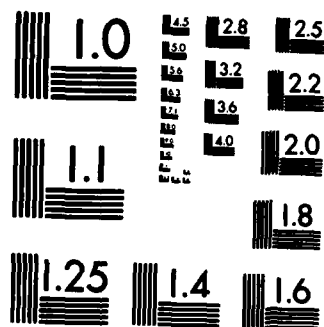
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DR-1350
July 84

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AD-A146 492

METEOROLOGICAL DATA REPORT
19320BT MLRS

Missile Number V6138, V6139, V6155, V6141, V6167
Round Number V613/AT2-70 THRU V617/AT2-74

by

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AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-1350	2. GOVT ACCESSION NO. AD-A146492	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19320BT MLRS Missile Number V6138, V6139, V6155, V6141, V6167 Round Number V613/AT2-70 THRU V617/AT2-74		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		12. REPORT DATE July 1984
		13. NUMBER OF PAGES
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19320BT MLRS, Missile Number V6138, V6139, V6155, V6141, V6167, Round Number V613/AT2-70 THRU V617/AT2-74 are presented in tabular form.		

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INTRODUCTION

19320BT MLRS, Missile Numbers V6138, V6139, V6155, V6141, and V6167, Round Numbers V613/AT2-70 THRU V617/AT2-74, were launched from LC-33, White Sands Missile Range (WSMR). New Mexico, at 1505:00, 1505:05, 1505:10, 1543:00, and 1543:06 MDT, 06 Jul 84. The scheduled launch times were 1445 (3T's) and 1530 (3T's) MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods.

1. Observations

a. Surface

(1) Standard surface observation to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 Minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

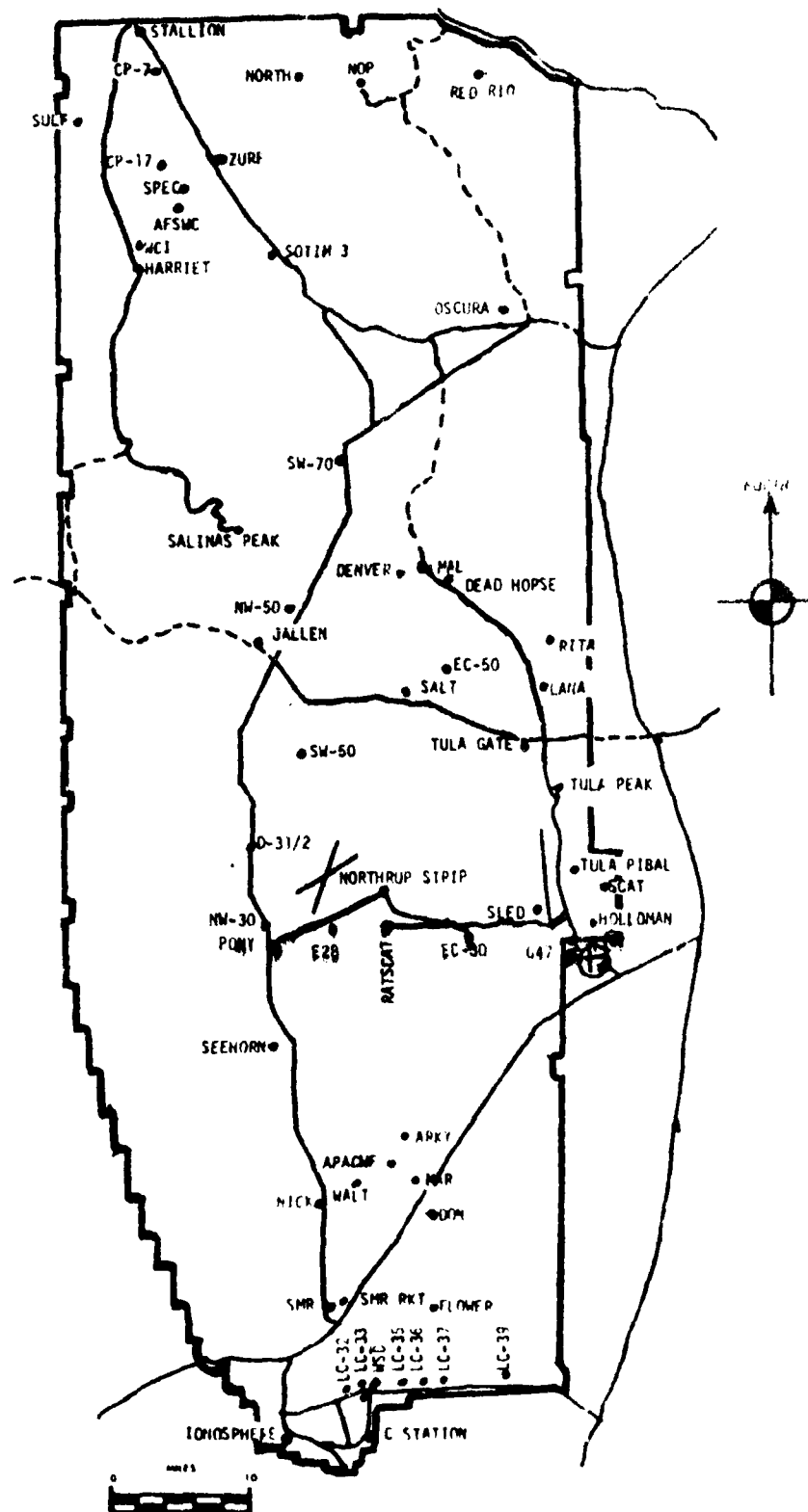
SITE AND ALTITUDE	
LC-33	2km
Don	2km

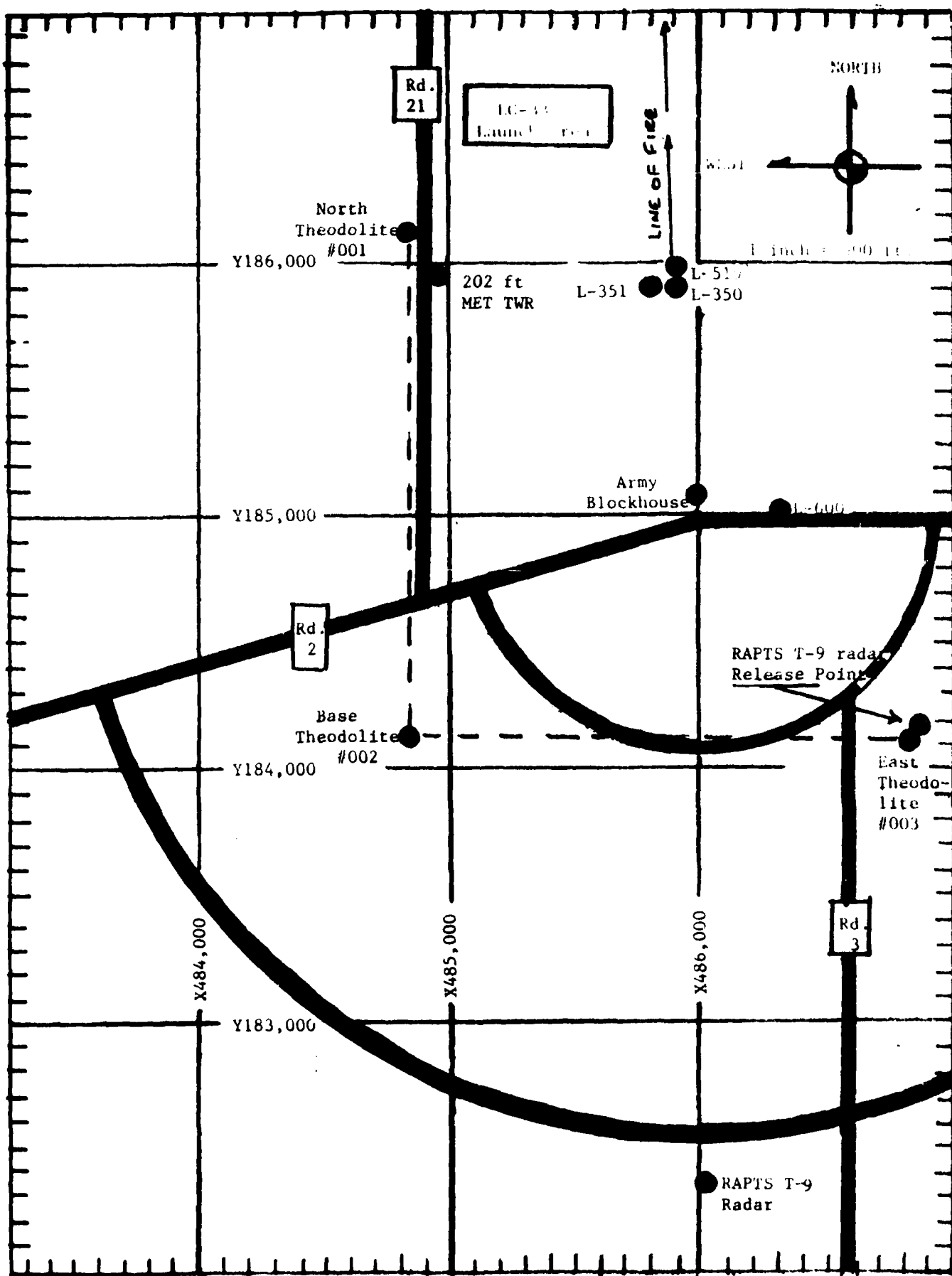
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME		
WSD	1145	MDT
WSD	1315	MDT
SMR	1400	MDT
WSD	1505	MDT
SMR	1545	MDT

Accession For	
ETIS GRA&I	<input checked="" type="checkbox"/>
ETIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Distribution	
Available Codes	
Dist	Special
A-1	

WSMR METEOROLOGICAL SITES





PERFECT SURFACE OBSERVATION

TABLE 1
 DATE 06 July 1984
 STATION LC-33

TIME 1505
 M D I
 X=484.982.64 Y=185.957.73 H=3995.00

TIME M D I	PRESSURE mbs	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/cm ³	DIRECTION degs Tn	SPEED kts	CHARACTER kts	VISIBIL- ITY
1505	877.3	34.8	11.5	25		130	05		40
1543	877.0	34.2	10.8	24		150	08		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
	7	CU	6000	1	CS	26,000	TCU N
	6	CU	6000	1	CS	26,000	CBNGNE, TCU NW, RWU N

PSYCHROMETRIC COMPUTATION

TIME: MDT	1505	1543
DRY BULB TEMP.	34.8	34.2
WET BULB TEMP.	19.3	18.8
WET BULB DEPR.	15.5	15.4
DEW POINT	11.5	10.8
RELATIVE HUMID.	25	25

PROJECT SURFACE OBSERVATION

TABLE 2

STATION/ Don Site									
DATE	06	July	84	X=	511,988.37	Y=	247,396.36	H=	3996.83
TIME	M D I	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	SPEED	VISIBIL- ITY
		mb	°C	°C	%	gm/m ³	degs	kts	
1505		875.5	35.2	14.3	29		120	05	40
1543		875.5	35.7	12.7	26		125	06	40

OBSTRUCTIONS TO VISIBILITY	CLOUDS							REMARKS	
	1st LAYER			2nd LAYER					
	AMT		HGT	AMT		HGT			
	TYPE			TYPE					
	6	Cu	6000		1	CI	22000		CB NE
	6	Cu	6000		1	CI	22000		TCU ALQDS, CB NE

PSYCHROMETRIC COMPUTATION

TIME: MDT	1505	1543
DRY BULB TEMP.	35.2	35.7
WET BULB TEMP.	20.8	20.1
WET BULB DEPR.	14.4	15.6
DEW POINT	14.3	12.7
RELATIVE HUMID.	29%	26

TABLE 3LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00 (BASE)

DATE 6 July 1984 1505 M D T
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	168	06	T-30	186	06
T-20	153	09	T-20	148	10
T-10	141	09	T-10	135	12
T- 0 (1st T)	136	08	T- 0 (1st T)	119	10
T+10	150	08	T+10	147	09
T+20	156	11	T+20	146	15
T+30	144	10	T+30	134	16
T+40			T+40		
T+50			T+50		
T+60			T+60		
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	174	08	T-30	148	08
T-20	152	11	T-20	125	09
T-10	142	14	T-10	128	12
T- 0 (1st T)	153	12	T- 0 (1st T)	118	15
T+10	150	15	T+10	133	17
T+20	150	15	T+20	145	15
T+30	141	17	T+30	122	15
T+40			T+40		
T+50			T+50		
T+60			T+60		

TABLE 4LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00 (BASE)

DATE 06 July 1984 1543 M D T
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	125	05	T-30	094	08
T-20	110	03	T-20	092	07
T-10	115	05	T-10	112	05
T- 0 (1st T)	121	06	T- 0 (1st T)	111	05
T+10	133	06	T+10	123	06
T+20	133	05	T+20	119	06
T+30	110	05	T+30	117	07
T+40			T+40		
T+50			T+50		
T+60			T+60		
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	086	10	T-30	102	11
T-20	114	10	T-20	102	11
T-10	119	07	T-10	099	09
T- 0 (1st T)	115	06	T- 0 (1st T)	093	06
T+10	120	09	T+10	099	11
T+20	115	10	T+20	107	11
T+30	124	08	T+30	122	10
T+40			T+40		
T+50			T+50		
T+60			T+60		

TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 06 July 1984

SITE: LC-33

TIME: 1505 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE: DON

TIME 1505 MDT

WSTM COORDINATES:

X= 511,988.37

Y= 247,396.36

H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	130	05
150	145	06
210	160	07
270	178	15
330	172	13
390	181	12
500	165	10
650	173	12
800	148	10
950	172	08
1150	154	10
1350	145	11
1550	100	20
1750	094	13
2000	081	29

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	120	05
150	124	06
210	134	07
270	127	10
330	115	11
390	113	12
500	123	12
650	123	13
800	121	06
950	117	06
1150	084	07
1350	118	11
1550	119	12
1750	131	10
2000	140	13

All data obtained from RAPTS T-9 radar Tracked pilot-balloon observations

TABLE 6

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 06 July 1984

SITE: LC-33

TIME: 1543 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE: DON

TIME 1543 MDT

WSTM COORDINATES:

X= 511,988.37

Y= 247,396.36

H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	150	08
150	126	09
210	106	11
270	081	13
330	110	05
390	111	08
500	152	08
650	143	10
800	139	10
950	126	12
1150	136	14
1350	142	12
1550	139	13
1750	097	18
2000	129	12

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	125	06
150	070	07
210	094	13
270	097	18
330	086	20
390	089	20
500	091	16
650	104	10
800	103	10
950	097	10
1150	103	08
1350	094	07
1550	086	09
1750	085	07
2000	098	10

All data obtained from RAPTS T-9 Radar Tracked pilot-balloon observations.

TABLE: 7

AIMING AND T-TIME COMPUTER MET MESSAGE DATA
06 July 1984

WSD 1145 MDT
METCM1324064
061780122879

00267007 30500879
01275008 30380870
02256007 30070845
03224006 29650808
04234003 29150762
05223011 28740718
06212012 28410677
07183009 28020637
08173013 27640599
09142015 27300563
10137013 26890529
11198012 26640496
12209009 26120450

WSD 1315 MDT
METCM1324064
061930122878

00213006 30700878
01155010 30560868
02139004 30190844
03195004 29770807
04213006 29290761
05248007 28810718
06243014 28380676
07176013 28020637
08153010 27650599
09161013 27300563
10183013 27010527
11190017 26690496
12198010 26130450

SMR 1400 MDT
METCM1325064
062000122877

00249012 30950877
01272006 30560867
02242008 30250843
03271010 29840806
04259011 29350761
05267011 28880718
06223013 28400676
07191016 28030636
08165013 27620599
09166013 27240563
10193013 26960528
11208012 26690496

WSD 1505 MDT
METCM1324064
062110122877

00356010 30940877
01331015 30760867
02294009 30430843
03266015 30020806
04235016 29510761
05200014 29020718
06218011 28550677
07210010 28090637
08170016 27670599
09178019 27410563
10202014 27140529
11206010 26750479
12226010 26250451

SMR 1545 MDT
METCM1325064
062180122876

00213017 30870876
01207012 30670867
02227014 30340843
03252015 29970805
04247015 29510761
05268014 29020718
06277014 28510676
07238014 28040637
08271013 27580599
09203009 27200563
10162014 26840528
11220009 26680496
12257009 26160450

STATION ALTITUDE 1907.0 FEET "SL"
 1145 MDT
 ASCENSION NO. 351

SIGNIFICANT LEVEL DATA

190000Z
 WHITE SANDS

TABLE 8

GEODETIC COORDINATES
 37.43043 LAT DEG
 106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS WSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
879.4	29.7	14.7	42.0
877.6	29.5	14.9	41.0
850.0	26.0	12.3	44.0
795.3	20.2	10.0	52.0
770.5	17.4	10.3	63.0
732.4	13.3	9.9	30.0
718.3	13.0	2.3	43.0
700.0	12.2	1.2	47.0
633.1	5.6	-2.0	58.0
624.9	5.2	-3.6	53.0
611.2	3.7	-3.3	50.0
599.9	2.6	-5.2	52.0
584.4	.9	-7.1	55.0
572.0	.3	-10.2	65.0
556.5	-1.2	-11.5	65.0
531.3	-5.0	-7.4	33.0
525.1	-5.2	-3.9	75.0
517.0	-5.6	-22.0	26.0
500.0	-5.5	-17.6	41.0
425.7	-15.2	-32.0	22.0
410.1	-16.3	-32.5	23.0
400.0	-17.5	-24.2	56.0

STATION ALTITUDE 3289.00 FEET MSL
 6 JULY 84 1145 MDT
 ASCENSION NO. 323

UPPER AIR DATA
 1860070357
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 9

GLOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GRAMS/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES(TV)	SPEED KNOTS	INDEX OF REFRACTION
					KNOTS	FT/SEC			
3289.00	579.4	29.7	40.5	1036.3	580.4	150.0	150.0	7.0	1.000203
4000.0	579.1	29.7	40.5	1004.0	580.4	149.9	149.9	7.0	1.000203
4500.0	578.4	29.6	42.5	993.3	578.2	147.4	147.4	6.5	1.000248
5000.0	576.4	25.4	44.1	982.8	576.0	144.4	144.4	6.1	1.000282
5500.0	574.7	24.6	46.2	971.0	574.2	141.0	141.0	5.7	1.000277
6000.0	570.3	22.4	48.3	950.3	572.4	137.1	137.1	5.3	1.000272
6500.0	565.1	21.4	50.4	947.7	570.6	132.7	132.7	5.0	1.000267
7000.0	702.2	19.8	53.4	936.3	568.8	130.4	130.4	4.4	1.000263
7500.0	778.3	18.3	56.3	924.5	667.1	127.9	127.9	3.8	1.000262
8000.0	764.5	15.8	55.3	917.0	555.4	126.5	126.5	3.2	1.000260
8500.0	751.0	15.3	71.0	901.2	553.5	127.6	127.6	5.8	1.000258
9000.0	737.7	13.4	77.6	880.5	652.1	127.9	127.9	7.3	1.000255
9500.0	774.5	13.1	51.5	877.4	550.8	127.3	127.3	7.1	1.000249
10000.0	711.5	12.7	47.2	863.9	559.9	126.7	126.7	11.0	1.000225
10500.0	696.7	12.1	47.2	850.5	559.1	124.7	124.7	11.9	1.000220
11000.0	680.0	10.4	49.3	839.5	557.7	122.2	122.2	12.2	1.000217
11500.0	573.3	9.7	51.2	826.8	656.3	119.8	119.8	11.9	1.000213
12000.0	561.3	3.5	52.2	815.3	554.9	113.4	113.4	10.8	1.000210
12500.0	549.3	7.2	55.2	804.0	553.4	108.4	108.4	10.4	1.000205
13000.0	537.5	6.1	57.4	792.8	652.0	105.0	105.0	10.3	1.000203
13500.0	625.8	5.6	53.5	780.3	551.0	102.4	102.4	11.5	1.000197
14000.0	514.4	4.0	56.6	769.7	649.6	100.5	100.5	12.6	1.000193
14500.0	602.3	2.4	54.7	758.8	648.1	98.3	98.3	12.7	1.000189
15000.0	591.3	1.7	57.7	748.1	545.5	95.8	95.8	12.7	1.000185
15500.0	580.5	.7	51.3	734.8	645.4	88.4	88.4	12.9	1.000181
16000.0	569.6	.1	45.3	725.0	544.5	81.1	81.1	13.4	1.000175
16500.0	558.9	-1.0	45.3	714.1	543.3	75.6	75.6	14.0	1.000172
17000.0	548.3	-2.4	45.2	704.1	541.7	70.9	70.9	14.6	1.000172
17500.0	537.9	-4.0	57.2	694.5	539.9	74.3	74.3	13.9	1.000172
18000.0	527.5	-5.1	77.7	684.2	538.5	78.8	78.8	13.1	1.000169
18500.0	517.5	-5.0	26.3	673.2	537.5	87.9	87.9	12.4	1.000155
19000.0	507.6	-6.4	34.3	657.5	536.9	97.8	97.8	12.0	1.000154
19500.0	497.5	-5.2	40.3	650.3	535.1	106.3	106.3	12.0	1.000153
20000.0	488.0	-7.4	34.3	640.3	534.3	117.3	117.3	12.7	1.000150
20500.0	478.5	-9.0	35.3	630.3	533.5	121.3	121.3	13.7	1.000145
21000.0	469.1	-10.3	33.3	620.5	532.3	124.4	124.4	12.4	1.000143
21500.0	459.4	-11.1	31.7	610.9	530.9	122.9	122.9	10.4	1.000141
22000.0	450.4	-12.1	26.3	601.5	529.6	119.4	119.4	8.7	1.000135
22500.0	441.1	-13.4	26.3	592.1	528.3	110.7	110.7	6.3	1.000135
23000.0	433.4	-14.7	24.7	582.9	627.0	90.6	90.6	5.3	1.000133

STATION ALTITUDE 59,900 FEET -SL
 2 JULY 84 1145 MDT
 ASCENSION NO. 363

UPPER AIR DATA
 1980020163
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 9 Cont'd

CLIMATIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TV)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.9	-15.3	22.0	573.8	525.7	91.1	6.9	1.000170
24000.0	415.4	-15.3	22.6	563.5	525.0			1.000123
24500.0	405.1	-15.6	29.6	553.8	526.2			1.000125

STATION ALTITUDE 10720 FEET
 6 JULY 64
 ASCENSION MO. 1964

MANDATORY LEVELS
 150000000
 UNIT SANDS

GEODETIC COORDINATES
 32.60043 LAT DEG
 106.47033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TW)	SPEED KNOTS
850.0	4277.	25.0	44.	144.5	5.1
800.0	5715.	20.7	51.	131.8	4.7
750.0	8501.	18.2	72.	127.4	5.9
700.0	10447.	12.2	47.	125.2	11.9
650.0	12452.	7.3	55.	109.8	12.4
600.0	14709.	2.6	52.	97.7	12.7
550.0	16440.	-2.2	55.	71.6	14.5
500.0	19353.	-5.5	41.	105.7	12.0
450.0	22770.	-12.2	29.	119.7	8.6
400.0	26955.	-17.5	55.		

STATION ALTITUDE 2989.0 FEET MSL
 5 JULY 54 1315 MDT
 ASCENSION NO. 354

SIGNIFICANT LEVEL DATA
 195327064
 WHITE SANDS

STATION ALTITUDE 2989.0 FEET MSL
 5 JULY 54 1315 MDT
 ASCENSION NO. 354

GEODETIC COORDINATES
 32.63063 LAT DEG
 136.77033 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
378.1	2939.0	51.7	14.4	55.0
559.1	4222.7	32.7	13.0	54.0
550.0	4942.7	27.4	11.5	53.0
745.1	5310.2	21.5	12.7	50.0
753.1	4672.7	17.2	9.5	51.0
707.0	1745.6	11.1	3.3	35.0
464.6	1131.2	2.5	9.0	25.0
575.3	1128.7	4.7	3.1	25.0
572.3	1143.2	5.1	-1.3	59.0
465.3	1125.2	3.9	-1.2	49.0
536.7	1311.0	5.0	-2.5	56.0
565.3	1345.9	5.3	-5.7	65.0
583.0	1527.2	1.2	-8.6	47.0
554.7	1662.0	-0.9	-13.7	57.0
332.3	1743.5	-2.8	-15.3	53.0
515.5	1853.7	-6.1	-22.6	22.0
500.0	1920.7	-5.0	-23.2	26.0
451.0	2205.6	-12.1	-23.5	26.0
409.6	24619.5	-15.9	-42.2	25.0
600.0	24932.0	-13.1	-23.9	58.0

GEODETIC COORDINATES
32.40043 LAT DEG
106.87035 LONG DEG

UPPER AIR DATA
1800020354
WHITE SANDS

STATION ALTITUDE 1029.0 FEET MSL
0 JULY 34 1315 MDT
ASCENTION NO. 354

TABLE 12

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
1029.0	371.1	71.7	75.0	0.964	582.5	120.0	6.0	1.000249
975.0	377.3	71.7	75.0	0.961	582.5	119.7	5.0	1.000249
925.0	383.0	72.0	75.2	0.956	580.1	112.2	5.7	1.000291
875.0	386.3	72.2	75.4	0.952	577.3	107.6	4.6	1.000275
825.0	387.7	72.7	75.5	0.948	575.5	91.3	4.2	1.000274
775.0	389.6	73.1	75.6	0.944	573.3	91.2	3.0	1.000270
725.0	391.3	73.5	75.7	0.940	572.1	110.3	4.0	1.000267
675.0	392.7	73.7	75.7	0.937	570.4	120.4	6.6	1.000266
625.0	393.9	73.8	75.8	0.934	568.8	125.1	6.8	1.000260
575.0	395.2	73.9	75.8	0.931	567.1	125.0	5.7	1.000257
525.0	396.5	74.0	75.9	0.928	565.5	125.1	5.4	1.000256
475.0	397.8	74.1	76.0	0.925	563.8	130.5	5.6	1.000251
425.0	399.0	74.2	76.1	0.922	562.1	135.6	5.9	1.000243
375.0	400.2	74.3	76.2	0.919	560.3	139.1	8.1	1.000245
325.0	401.4	74.4	76.3	0.916	558.5	141.3	9.4	1.000242
275.0	402.6	74.5	76.4	0.913	556.8	138.5	11.2	1.000241
225.0	403.8	74.6	76.5	0.910	555.0	133.5	13.0	1.000213
175.0	405.0	74.7	76.6	0.907	553.2	124.0	13.9	1.000203
125.0	406.2	74.8	76.7	0.904	551.4	116.0	14.2	1.000205
75.0	407.4	74.9	76.8	0.901	549.6	100.0	14.8	1.000201
25.0	408.6	75.0	76.9	0.898	547.8	91.4	13.2	1.000193
0.0	409.8	75.1	77.0	0.895	546.0	36.3	12.0	1.000190
1029.0	371.1	71.7	75.0	0.964	582.5	87.0	11.5	1.000185
975.0	377.3	71.7	75.0	0.961	582.5	39.9	11.4	1.000183
925.0	383.0	72.0	75.2	0.956	580.1	22.8	12.2	1.000179
875.0	386.3	72.2	75.4	0.952	577.3	92.0	12.5	1.000175
825.0	387.7	72.7	75.5	0.948	575.5	90.1	11.7	1.000170
775.0	389.6	73.1	75.6	0.944	573.3	90.7	12.0	1.000163
725.0	391.3	73.5	75.7	0.940	572.1	97.5	12.5	1.000161
675.0	392.7	73.7	75.7	0.937	570.4	102.6	13.6	1.000159
625.0	393.9	73.8	75.8	0.934	568.8	107.4	14.4	1.000154
575.0	395.2	73.9	75.8	0.931	567.1	111.0	15.3	1.000152
525.0	396.5	74.0	75.9	0.928	565.5	110.1	15.4	1.000149
475.0	397.8	74.1	76.0	0.925	563.8	108.5	15.1	1.000147
425.0	399.0	74.2	76.1	0.922	562.1	107.3	14.7	1.000144
375.0	400.2	74.3	76.2	0.919	560.3	105.7	14.2	1.000142
325.0	401.4	74.4	76.3	0.916	558.5	107.6	11.1	1.000141
275.0	402.6	74.5	76.4	0.913	556.8	111.1	9.7	1.000137
225.0	403.8	74.6	76.5	0.910	555.0	112.7	9.4	1.000135
175.0	405.0	74.7	76.6	0.907	553.2	115.7	9.9	1.000133

GEODETIC COORDINATES
32.60043 LAT DEG
106.87033 LON DEG

UPPER AIR DATA
1950020356
4MTF SAVDS

STATION ALTITUDE. 3200 FT WSL
1 JULY 54 1315 MDT
ACCESSION NO. 294

TABLE 12 Cont'd

GEOMETRIC ALTITUDE WSL FEET	PRESSURE WILLIAMS DEGREES CENTIGRADE	TEMPERATURE AIR DEGREE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF WIND KNOTS	WIND DATA DIRECTION DEGREES (TV)	SPEED KNOTS	INDEX OF REFRACTION
22500.0	424.5	-15.1	24.6	1572.1	525.0	111.2	7.9	1.000170
24000.0	415.3	-16.1	24.3	554.0	524.3			1.000123
24500.0	406.1	-17.1	26.3	554.0	523.5			1.000125

STATION ALTITUDE 52,270 FEET MSL
 5 JULY 64 1315 MDT
 ASCENSION NO. 154

MANDATORY LEVELS
 3500000000
 WHITE SANDS

TABLE 13

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT DEGREES	PERCENT		DIRECTION DEGREES (TN)	SPEED KNOTS
950.0	42330	27.4	11.4	33		136.0	6.7
900.0	55250	22.0	11.0	49		117.8	6.1
850.0	68110	15.0	7.4	52		125.3	5.6
800.0	80925	11.1	4.3	87		161.5	9.3
750.0	93740	7.5	-1.9	51		115.1	16.2
700.0	106550	2.8	-7.6	35		87.6	11.6
650.0	119360	-1.5	-14.6	35		97.7	11.9
600.0	132170	-5.0	-23.2	24		117.5	15.5
550.0	144980	-12.2	-28.6	24		111.4	9.7
500.0	157790	-18.1	-28.0	15			

STATION ALTITUDE 3997.75 FEET MSL
 5 JULY 54
 ASCENSION NO. 109

SIGNIFICANT LEVEL DATA
 1500 JUL 12G
 S W F

GEODETIC COORDINATES
 12.48034 LAT DEG
 106.42307 LON DEG

TABLE 14

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE		REL. HUM. PERCENT
		AIR	WETBULB	
MILLIBARS	FEET	DEGREES	DEGREES	
877.1	3997.3	34.1	14.1	10.0
873.7	4112.0	30.0	9.5	20.0
866.1	4367.9	29.5	9.0	29.0
850.0	4916.2	28.5	10.2	72.0
776.6	7515.2	20.3	8.9	42.0
738.3	8942.2	16.4	7.9	57.0
700.0	10423.4	11.9	8.0	77.0
679.8	11227.5	9.1	8.0	93.0
662.9	11914.2	8.2	5.8	85.0
554.6	12256.8	3.2	-2.4	47.0
652.0	12364.9	7.9	.6	60.0
646.0	12615.5	7.0	-3.2	45.0
593.3	14895.3	1.9	-8.5	46.0
558.9	16470.0	-1.6	-12.5	43.0
521.6	18269.2	-4.4	-21.0	26.0
514.4	18229.6	-3.9	-23.0	21.0
500.0	19363.6	-6.0	-25.3	20.0
485.4	20125.4	-6.8	-27.7	17.0
461.8	21396.2	-10.4	-30.7	17.0

STATION ALTITUDE 3957.70 FEET MSL
6 JULY 54 1400 MDT
ASCENSION NO. 129

UPPER AIR DATA
180000Z129
S W R

GEODETIC COORDINATES
22.48034 LAT DEG
106.42307 LON DEG

TABLE 15

GEOMETRIC ALTITUDE PSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS PER SEC	WIND DATA	INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	
3957.7	877.1	14.1	30.0	987.6	685.3	140.0	1.000285
4000.0	877.0	14.0	30.0	987.0	685.1	140.0	1.000284
4500.0	842.2	9.8	29.7	987.9	679.3	139.2	1.000270
5000.0	847.5	10.2	32.5	974.2	678.6	138.3	1.000269
5500.0	872.9	10.2	35.6	962.4	676.5	138.2	1.000267
6000.0	818.5	10.0	38.7	950.8	674.7	144.4	1.000264
6500.0	804.5	9.8	41.7	939.4	672.9	151.7	1.000261
7000.0	790.6	9.4	44.6	928.2	671.1	157.3	1.000258
7500.0	777.0	9.0	47.9	917.1	669.3	153.5	1.000255
8000.0	763.4	8.6	51.1	905.3	667.7	151.8	1.000252
8500.0	750.0	8.3	54.2	893.6	666.1	152.7	1.000248
9000.0	736.8	7.9	57.2	882.1	664.5	150.2	1.000245
9500.0	723.6	7.1	64.5	870.8	662.8	144.5	1.000243
10000.0	710.7	6.1	71.3	859.7	661.1	135.7	1.000242
10500.0	698.0	5.0	78.5	848.9	659.4	129.9	1.000239
11000.0	685.5	4.1	86.5	838.6	657.4	128.5	1.000238
11500.0	673.0	3.2	99.8	827.0	656.0	127.9	1.000233
12000.0	660.8	2.4	75.5	814.4	655.0	126.6	1.000221
12500.0	648.8	1.4	53.5	802.0	653.6	117.7	1.000205
13000.0	636.5	0.1	47.2	792.2	651.9	104.9	1.000198
13500.0	625.0	0.0	47.2	780.8	650.6	97.3	1.000194
14000.0	613.5	0.0	46.8	769.6	649.2	95.3	1.000190
14500.0	602.1	0.0	46.3	758.5	647.8	93.9	1.000186
15000.0	590.9	0.0	45.8	747.6	646.5	93.5	1.000182
15500.0	579.6	0.0	44.8	736.6	645.1	94.1	1.000179
16000.0	569.0	0.0	43.9	725.9	643.8	95.1	1.000175
16500.0	558.3	0.0	42.7	715.2	642.4	97.1	1.000171
17000.0	547.6	0.0	38.0	703.8	641.4	101.4	1.000167
17500.0	537.2	0.0	33.3	692.5	640.4	105.2	1.000163
18000.0	527.0	0.0	28.5	681.4	639.5	108.4	1.000159
18500.0	517.0	0.0	22.8	668.8	639.2	111.4	1.000154
19000.0	507.1	0.0	20.5	658.2	638.2	114.2	1.000151
19500.0	497.4	0.0	19.5	648.5	636.8	117.5	1.000148
20000.0	487.3	0.0	17.5	637.3	636.1	117.8	1.000145
20500.0	478.3	0.0	17.0	627.8	634.7	117.8	1.000143
21000.0	469.0	0.0	17.0	619.0	633.0	117.8	1.000141

STATION ALTITUDE 1097.7 FEET MSL
 6 JULY 84 1400 MDT
 ASCENSION NO. 127

MANDATORY LEVELS
 180000C120
 S V F

(GEOGRAPHIC COORDINATES
 12.48024 LAT DEG
 100.42307 LON DEG

TABLE 16

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		LIFTOFF DEGREES(TN)	SPEED KNOTS
950.0	4913.	28.5	10.2	32.		128.4	9.7
800.0	6694.	27.0	9.7	43.		152.9	10.3
750.0	8493.	17.6	8.3	54.		152.7	17.1
700.0	10413.	11.9	8.0	77.		130.8	9.0
650.0	12435.	7.6	-2.2	56.		118.9	15.3
600.0	14580.	2.0	-7.8	46.		92.9	12.0
550.0	16568.	-2.3	-14.3	39.		100.4	15.5
500.0	19736.	-7.0	-25.3	20.		116.4	14.2

SECRETIC COORDINATES
 32.63763 LAT D-6
 106.37033 LON 068

SIGNIFICANT LEVEL DATA
 105002355
 WHITE SANDS

STATION ALTITUDE 3200 FEET MSL
 6 JULY 96 1505 MDT
 ASCENSION NO. 355

TABLE 17

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
275.5	34.8	8.5	20.0
366.1	32.6	8.6	23.0
350.0	30.5	7.7	26.0
763.1	20.9	4.0	33.0
700.0	13.0	2.5	45.0
549.0	3.1	1.0	51.0
512.6	3.8	-2	75.0
596.6	2.1	-1.3	79.0
577.6	.1	-5.3	57.0
569.5	.9	-11.2	60.0
500.2	.5	-18.1	23.0
551.2	.5	-13.2	23.0
525.2	-2.3	-20.1	26.0
500.0	-5.7	-22.5	25.0
638.3	-12.3	-29.5	22.0
608.5	-15.8	-33.6	27.0
600.0	-16.7	-27.1	60.0

GEODETIC COORDINATES
32.63363 LAT DEG
136.37033 LON DEG

UPPER AIR DATA

STATION ALTITUDE 2243 FT
6 JULY 54 1505 MDT
ASCENSION NO. 555

TABLE 18

GEOMETRIC ALTITUDE MSL FEET	PRESSURE WILLIAMS DEGREES	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3759.0	375.5	74.6	8.5	986.5	585.3	200.0	9.9	1.000244
4000.0	375.2	74.7	8.5	986.5	585.2	199.7	9.9	1.000246
4500.0	361.5	72.1	6.4	978.5	582.5	186.9	10.0	1.000253
5000.0	345.9	70.2	7.5	958.2	580.1	174.9	10.5	1.000259
5500.0	332.4	69.5	7.1	955.5	578.3	164.4	11.5	1.000255
6000.0	316.1	67.1	6.5	944.9	575.5	155.9	12.8	1.000252
6500.0	306.1	65.5	6.0	933.5	574.8	149.9	14.3	1.000248
7000.0	292.3	64.0	5.4	922.6	573.0	143.5	15.1	1.000246
7500.0	275.7	62.5	4.8	911.6	571.2	138.5	15.7	1.000240
8000.0	253.4	60.9	4.1	900.5	559.6	133.9	15.6	1.000237
8500.0	249.9	59.5	3.7	889.1	557.8	128.5	15.2	1.000236
9000.0	235.7	58.0	3.5	877.7	566.1	122.4	16.7	1.000231
9500.0	223.7	56.5	3.3	856.5	554.5	118.4	16.2	1.000228
10000.0	210.9	55.2	2.9	855.5	562.3	117.3	15.5	1.000225
10500.0	198.3	53.7	2.5	844.7	551.1	117.1	12.8	1.000222
11000.0	185.7	52.3	2.2	833.5	559.5	115.7	11.9	1.000219
11500.0	173.3	50.9	1.9	822.5	557.9	120.8	11.1	1.000216
12000.0	161.2	49.5	1.5	811.5	556.5	121.4	10.5	1.000213
12500.0	149.2	48.1	1.1	801.3	556.5	119.5	10.5	1.000210
13000.0	137.3	46.8	.7	790.2	553.0	115.7	12.6	1.000207
13500.0	125.6	45.4	.3	779.5	551.4	109.9	11.8	1.000204
14000.0	114.1	44.0	-.1	759.3	549.3	103.3	15.2	1.000201
14500.0	102.7	42.6	-.8	757.9	548.6	97.6	15.1	1.000198
15000.0	91.5	41.2	-2.0	747.1	547.0	94.5	15.9	1.000193
15500.0	80.5	39.8	-.5	736.9	545.3	95.9	19.6	1.000185
16000.0	69.6	38.4	-.7	723.2	545.3	97.8	19.2	1.000175
16500.0	58.9	37.0	-.6	717.5	544.9	101.7	18.5	1.000165
17000.0	48.4	35.6	-.2	698.2	544.4	104.9	16.8	1.000145
17500.0	38.0	34.2	-.3	688.9	543.0	109.5	15.2	1.000160
18000.0	27.9	32.8	-.9	677.9	541.7	113.1	16.5	1.000157
18500.0	17.8	31.4	-.5	668.1	540.2	115.9	15.9	1.000155
19000.0	7.6	30.0	-.4	658.5	538.5	117.3	15.4	1.000152
19500.0	43.2	28.6	-.3	648.9	537.1	117.2	12.9	1.000150
20000.0	48.5	27.2	-.3	638.7	535.9	118.3	12.1	1.000147
20500.0	47.0	25.8	-.3	628.5	534.8	122.0	11.2	1.000144
21000.0	46.7	24.4	-.3	618.7	533.5	126.3	10.6	1.000142
21500.0	45.5	23.0	-.3	608.0	532.4	131.7	9.8	1.000139
22000.0	45.1	21.6	-.3	598.5	531.2	132.9	9.0	1.000137
22500.0	44.2	20.2	-.3	588.3	530.0	131.1	8.1	1.000134
23000.0	44.2	18.8	-.3	580.5	525.4	129.9	7.3	1.000132

UPPER AIR DATA
1950 20555
WHITE SANDS

STATION ALTITUDE 3253.0 FEET MSL
5 JULY 56 1505 MDT
ASCENSION NO. 559

GEOMETRIC COORDINATES
32.40765 LAT DEG
105.37555 LON DEG

TABLE 18 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ AFTER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.0	-15.0	24.1	571.3	527.5	129.5	5.4	1.000110
24000.0	417.1	-14.8	25.5	557.1	525.6			1.000123
24500.0	408.9	-15.8	26.9	553.1	525.2			1.000125
25000.0	400.7	-16.8	38.9	543.3	526.2			1.000126

MANDATORY LEVELS
 1000000000
 WHITE SANDS

STATION ALTITUDE 1000000000
 1505 MDT
 2 JULY 84
 ASCENSION NO. 355

GEODETIC COORDINATES
 32.43043 LAT DEG
 136.37033 LON DEG

TABLE 19

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (IN)	SPEED KNOTS
950.0	6020	33.5	7.7	26	177.3	13.6
900.0	5550	25.1	5.0	29	147.1	14.3
850.0	5080	19.5	3.0	35	128.7	15.2
800.0	4610	13.9	2.5	65	117.2	12.9
750.0	4140	8.2	1.1	61	110.7	10.5
700.0	3670	2.5	-1.0	77	96.4	15.5
650.0	3200	-6	-19.3	23	104.2	17.1
600.0	2730	-11.0	-22.5	25	117.2	13.0
550.0	2260	-16.7	-28.2	23	132.3	9.8
500.0	1790		-27.1	60		

GEODETIC COORDINATES
 32.45034 LAT DEG
 106.42307 LONG DEG

SIGNIFICANT LEVEL DATA
 1950-01-01
 C A R

STATION ALTITUDE 1947.75 FEET MSL
 1545 MDT
 ACCESSION NO. 17

TABLE 20

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MEL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
875.6	1927.3	14.1	9.4	22.0
872.7	4135.3	13.1	5.4	19.0
850.1	4677.9	22.4	5.5	22.0
742.2	7035.6	23.7	3.5	27.0
715.1	7956.5	15.5	2.0	60.0
700.0	12430.7	13.5	1.2	53.0
556.3	11549.9	9.5	-1.1	51.0
545.4	14735.1	.2	.3	25.0
570.6	15947.7	-2.3	-1.1	25.0
555.0	16555.2	-2.3	-5.4	32.0
546.1	17179.3	-5.3	-15.1	64.0
540.2	17355.1	-5.1	-17.5	40.0
536.2	17555.3	-5.5	-21.5	27.0
520.4	17878.0	-6.0	-20.6	26.0
500.0	19353.5	-5.0	-21.9	27.0
455.3	21175.5	-10.3	-25.7	27.0
433.5	22978.0	-13.6	-32.0	14.0
411.3	24233.3	-15.9	-29.3	29.0
400.0	24932.3	-17.6	-27.7	50.0

STATION ALTITUDE 1545 MDT
 5 JULY 54
 ASCENSION NO. 1

UNIFORM AIR DATA
 1500000000
 54

TABLE 21

GEOMETRIC ALTITUDE FSL FEET	PRESSURE	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (CN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3002.7	579.7	74.1	9.4	939.4	584.5	120.0	17.1	1.00264
3102.0	574.3	74.1	9.3	936.5	584.5	120.0	17.1	1.00267
4500.0	561.6	71.4	9.1	921.6	581.3	124.0	16.1	1.00267
5500.0	547.0	68.3	8.8	901.5	578.9	128.5	15.2	1.00264
6500.0	531.9	65.0	8.2	880.8	577.4	133.4	14.4	1.00261
7500.0	513.1	60.5	6.7	847.1	575.9	137.1	14.3	1.00267
8500.0	496.1	55.7	4.8	805.2	573.3	139.0	14.7	1.00264
9500.0	476.1	50.7	3.7	757.8	572.3	141.0	15.0	1.00260
10500.0	453.7	45.1	3.0	707.4	571.2	140.3	15.1	1.00277
11500.0	429.7	38.5	2.1	655.5	569.5	140.5	15.1	1.00275
12500.0	403.7	30.7	1.4	598.5	567.9	141.2	15.0	1.00272
13500.0	375.5	23.1	1.0	537.2	565.3	144.0	14.0	1.00279
14500.0	345.5	15.0	0.6	471.1	564.5	148.7	14.9	1.00275
15500.0	313.7	7.0	0.3	401.3	562.9	152.0	14.9	1.00283
16500.0	280.4	-1.0	0.1	328.2	560.5	152.1	14.6	1.00289
17500.0	245.7	-7.0	0.0	254.0	558.9	152.3	16.3	1.00285
18500.0	210.1	-13.0	0.0	179.3	557.3	152.4	14.5	1.00283
19500.0	173.6	-19.0	0.0	104.0	555.7	148.3	13.6	1.00283
20500.0	137.0	-25.0	0.0	30.1	554.0	143.4	12.5	1.00289
21500.0	100.4	-31.0	0.0	791.3	552.4	138.2	11.8	1.00285
22500.0	63.7	-37.0	0.0	780.2	550.7	141.1	11.8	1.00285
23500.0	27.1	-43.0	0.0	770.4	549.0	143.6	11.8	1.00284
24500.0	-9.4	-49.0	0.0	756.2	547.3	142.5	11.6	1.00281
25500.0	-45.0	-55.0	0.0	740.4	545.9	139.3	11.0	1.00281
26500.0	-90.0	-61.0	0.0	727.6	544.9	135.7	10.6	1.00284
27500.0	-135.0	-67.0	0.0	714.3	543.2	126.0	10.4	1.00280
28500.0	-180.0	-73.0	0.0	700.2	542.1	117.3	11.0	1.00282
29500.0	-225.0	-79.0	0.0	686.5	540.3	107.9	12.1	1.00281
30500.0	-270.0	-85.0	0.0	672.5	538.4	97.2	13.4	1.00282
31500.0	-315.0	-91.0	0.0	658.3	536.1	86.0	14.7	1.00283
32500.0	-360.0	-97.0	0.0	644.0	534.6	74.5	12.2	1.00285
33500.0	-405.0	-103.0	0.0	629.3	532.5	63.0	10.9	1.00282
34500.0	-450.0	-109.0	0.0	614.9	530.3	51.3	9.4	1.00283
35500.0	-495.0	-115.0	0.0	600.1	528.2	38.9	8.6	1.00287
36500.0	-540.0	-121.0	0.0	585.1	526.0	26.1	13.4	1.00285
37500.0	-585.0	-127.0	0.0	570.3	523.7	13.9	10.4	1.00286
38500.0	-630.0	-133.0	0.0	555.5	521.4	1.4	9.6	1.00286
39500.0	-675.0	-139.0	0.0	540.6	519.1	145.4	7.1	1.00287
40500.0	-720.0	-145.0	0.0	525.6	516.8	156.4	5.1	1.00284
41500.0	-765.0	-151.0	0.0	510.5	514.5	151.3	5.0	1.00282

32.6036 LAT 120
106.44207 LON 120

1545 MDT

TABLE 21 Cont'd

[illegible]

STATION ALTITUDE 1545 MDT
 5 JULY 64
 ASCENSION NO. 11

REMARKS
 1545 MDT
 5 JULY 64

SYNOPSIS COORDINATES
 32.53036 LAT NEG
 105.42307 LON NEG

TABLE 22

PRES QP	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES (TD)	SPEED KNOTS
750.0	4496.	29.4	22.	127.5	15.6
700.0	5451.	26.2	25.	130.8	14.9
750.0	3491.	19.7	33.	141.7	15.0
750.0	12420.	13.5	33.	153.1	14.8
650.0	12442.	7.3	50.	147.4	12.5
600.0	14576.	1.5	38.	141.5	11.6
550.0	16870.	-4.2	55.	99.3	12.0
500.0	19735.	-9.0	27.	114.3	9.9
450.0	22111.	-11.2	28.	147.1	7.7
400.0	24941.	-17.4	40.		

END

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